

APRIL/MAY 2023

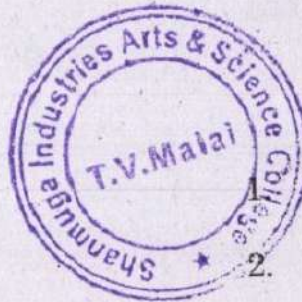
**DAM23/GAM23 — MOLECULAR BIOLOGY
AND MICROBIAL GENETICS**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.



1. Define RNA.
2. What are prokaryotes?
3. List out the functions of telomerases.
4. Define about D- loop.
5. Define translation.
6. List out the enzymes that play a key role in transcription.
7. Define DNA library.
8. What is meant by gene?
9. Define monoclonal antibodies.
10. Define antigens.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Write a note on types of genetic material.
Or
(b) Explain about the structure of RNA.
12. (a) Discuss about the enzymes involved in the DNA replication.
Or
(b) Describe about the proteins involved in the DNA replication.
13. (a) Explain about transcriptional factors.
Or
(b) Discuss about polyadenylation and capping process.
14. (a) Write a note on synthetic DNA.
Or
(b) Explain the process of preparation of genomic DNA library.
15. (a) Discuss about the application of genetic engineering.
Or
(b) Explain about the vaccines produced using genetic engineering.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Write in detail about DNA topology.
17. Explain about theta mode of replication.
18. Describe the process of translation in detail.
19. Discuss about expression systems.
20. Explain the production of monoclonal antibodies.
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